Encoder

5V
GND
A
B
Home signal

H bridge

GND
Not connect
PWM L
PWM R

UART

GND
5v
RX
TX
Interrupt

Config button

Frame structure									
Element	START	ID	COMMAND			PARAMETERS			END
Size:	1	2	1			Depend on command			1
			Value		Size				
Commands which executed on received	0x2A	16 bits to enable slaves. Slave ID correspond to bit index.	0x00	InstantVelocityFixAccelerate	8	4 bytes unsigned int accelerate (p/s^2)	4 bytes signed int velocity (p/s)		0x3E
			0x01	InstantVelocity	8	4 bytes unsigned int accelerate (ms)	4 bytes signed int velocity (p/s)		
			0x02	InstantSmoothVelocity	8	4 bytes unsigned int accelerate (ms)	4 bytes signed int velocity (p/s)		
			0x03	InstantSmoothAbsolutePosition	16	4 bytes unsigned int accelerate (ms)	4 bytes unsigned int velocity (p/s)	4 bytes unsigned int decelerate (ms)	4 bytes signed int absolute position (p)
			0x04	InstantSmoothRelativePosition	16	4 bytes unsigned int accelerate (ms)	4 bytes unsigned int velocity (p/s)	4 bytes unsigned int decelerate (ms)	4 bytes signed int relative position (p)
			0x1E	Homing	9	4 bytes unsigned int accelerate (ms)	4 bytes signed int velocity (p/s)	[0 - 1] 0: wait for 0 logic signal 1: wait for 1 logic signal	
Commands which executed after received <Execute> command			0x05	VelocityFixAccelerate	8	4 bytes unsigned int accelerate (p/s^2)	4 bytes signed int velocity (p/s)		
			0x06	Velocity	8	4 bytes unsigned int accelerate (ms)	4 bytes signed int velocity (p/s)		
			0x07	SmoothVelocity	8	4 bytes unsigned int accelerate (ms)	4 bytes signed int velocity (p/s)		
			0x08	SmoothAbsolutePosition	16	4 bytes unsigned int accelerate (ms)	4 bytes unsigned int velocity (p/s)	4 bytes unsigned int decelerate (ms)	4 bytes signed int absolute position (p)
			0x09	SmoothRelativePosition	16	4 bytes unsigned int accelerate (ms)	4 bytes unsigned int velocity (p/s)	4 bytes unsigned int decelerate (ms)	4 bytes signed int relative position (p)
			0x0A	Execute	0				
Device will reply a message has same format			0x0B	GetStatus	0				
			0x0C	GetRealPosition	0				
			0x0E	GetCurrentVelocity	0				
			0x1A	GetId	0				
			0x1B	GetParameters	0				
			0x1C	GetDeviceDescriptor	0				
			0x10	ConfigHostInterrupt	1	2 bits enable interrupt for: bit 0: Trajectory command completed bit 1: Velocity command completed			
			0x17	ConfigParameters	13	4 bytes Kp	4 bytes Ki	4 bytes Kd	1 byte sampling scale [0..11]
			0x18	ConfigSafety	4	4 bytes unsigned int			
			0x1D	Reset	0				
Avaiable after device enter interface config mode			0x1F	ConfigId	1	1 byte [0..16]			
			0x20	ConfigBaudrate	1	1 byte [0..1] 0: 115200 1: 921600			

Examples			
Slave0 Config parameters with KP: 2000 KI: 2 KD: 20000 sampling rate: 0 (highest)	0x2A 0x01 0x00 0x17 0xD0 0x07 0x00 0x00 0x04 0x00 0x00 0x00 0x20 0x4E 0x00 0x00 0x00 0x3E		
Slave0 InstantVelocity with accelerate time 1000 ms, velocity 100000 p/s	0x2A 0x01 0x00 0x01 0xE8 0x03 0x00 0x00 0xA0 0x86 0x01 0x00 0x3E		
Slave0 InstantSmoothAbsolutePosition with accelerate time 1000 ms, velocity 200, decelarate time 1000 ms, position 1800 pulse	0x2A 0x01 0x00 0x03 0xE8 0x03 0x00 0x00 0xC8 0x00 0x00 0x00 0xE8 0x03 0x00 0x00 0x08 0x07 0x00 0x00 0x3E		